

## Rapid HIV Testing: Applications for Youth

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# Covenant House

## Onsite Health Clinic

- Serves Canada's largest youth shelter and drop-in for youth<sup>1</sup>
- Number youth served: >900
- Age: < 24
- Number of health clinic visits: 8302 in 2010
- The team:
  - Nurses, family physicians, consulting psychiatrists
- Purpose:
  - Comprehensive, episodic primary care





# Advocacy-Based Research



## ■ **The Issue:**

- ~50% of youth at Covenant House do not pick up HIV test results<sup>2</sup>
- Youth (15-29 years) account for 26.5% of all HIV+ test reports<sup>3</sup>
- Canadian STI Guidelines mandate screening<sup>4</sup>

## ■ **The barrier:**

- Rapid Point-of-Care (POC) testing is not routinely covered by OHIP

## ■ **The inspiration:**

- “Public health professionals need to advocate for the development, approval and use of innovative HIV antibody testing technologies.”<sup>5</sup>

## ■ **The goal:**

- Advocate for, implement and study the acceptance/uptake of rapid POC HIV testing at Covenant House

# + Rapid POC HIV Testing

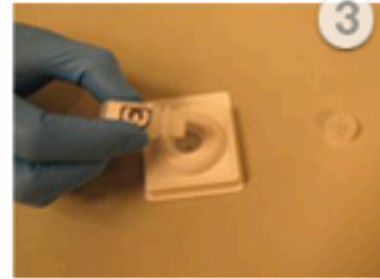
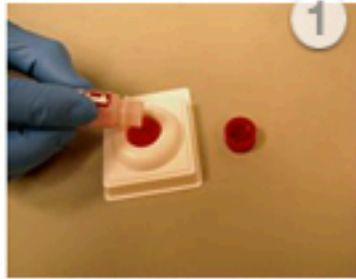
- POC Testing:
  - Performed outside of the traditional lab setting
  - May be limited in terms of skilled laboratory technicians, refrigeration and other specialized equipment requiring electricity
- Rapid Testing:
  - Results are available during the same appointment
  - Typically in minutes, as opposed to the days to weeks required for traditional venipuncture test results



# + Rapid POC Tests in Canada



- INSITI Rapid Test ®, BioLytical Laboratories (BC)
  - Only rapid test licensed in Canada for Point-of-Care (POC) testing<sup>15</sup>
- Approved based on large, multi-center clinical trial (2005)<sup>16</sup>
  - Vancouver, Calgary and Toronto sites
  - MSM, IVDU, known HIV 1& 2



Collect 50µl of fingerstick blood, venous whole blood, serum or plasma and add bottle number 1, Sample Diluent, re-cap and invert 3-4 times.

**1** Pour the entire contents of bottle number 1 into the center of the Membrane Unit well. HIV antibodies, if present, are captured at the test spot by proteins on the membrane.

**2** Add the entire contents of bottle number 2, Colour Developer, into the center of the Membrane Unit well to generate a blue control spot and a second spot if HIV-1/HIV-2 antibodies are present.

**3** Add the entire contents of bottle number 3, Clarifying Solution into center of the Membrane Unit well to reduce background colour and produce more distinct test and control spots. The control spot will appear only if human blood or blood component is present.

**Results in as little as 60 seconds**



**Non-Reactive**



**Reactive**



**Invalid**



# + INSTI Rapid Test ®<sup>15</sup>



- **Sensitivity: 99.6%; PPV: 97.8%**
  - Positive tests confirmed by ELISA/Western Blot
- **Specificity: 99.3%; NPV: 99.5%**
  - Negative tests do not have to be confirmed
- **HIV: Type 1 & Type 2**
- **Sample Source: Capillary Blood**
- **Results: 60 sec**
- **Cost: \$15/test**

# + Project Stages

**Systematic  
Review**

**Funding &  
Training  
Application**

**Implementation  
&  
Evaluation**

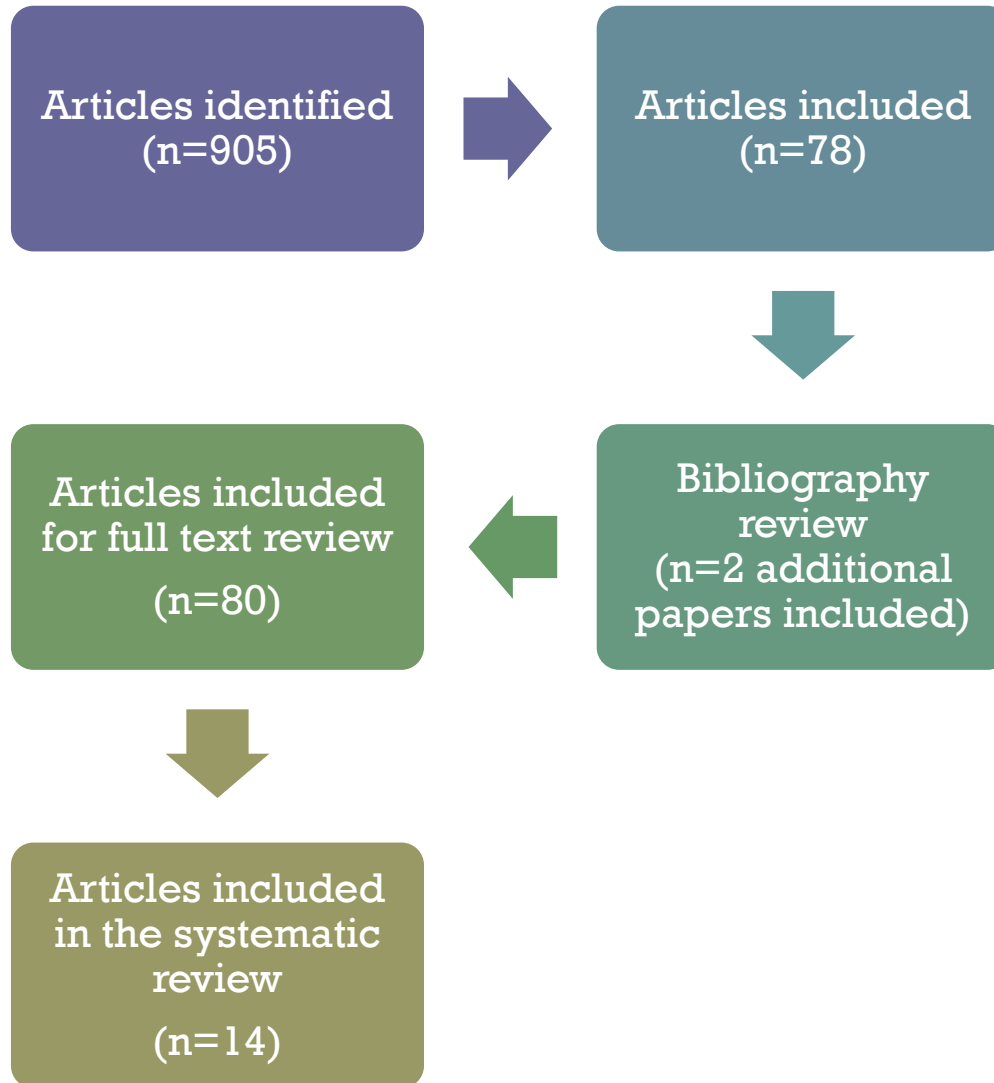
**Chart  
Review**

**Community  
Engagement**





# + Systematic Review: Methodology

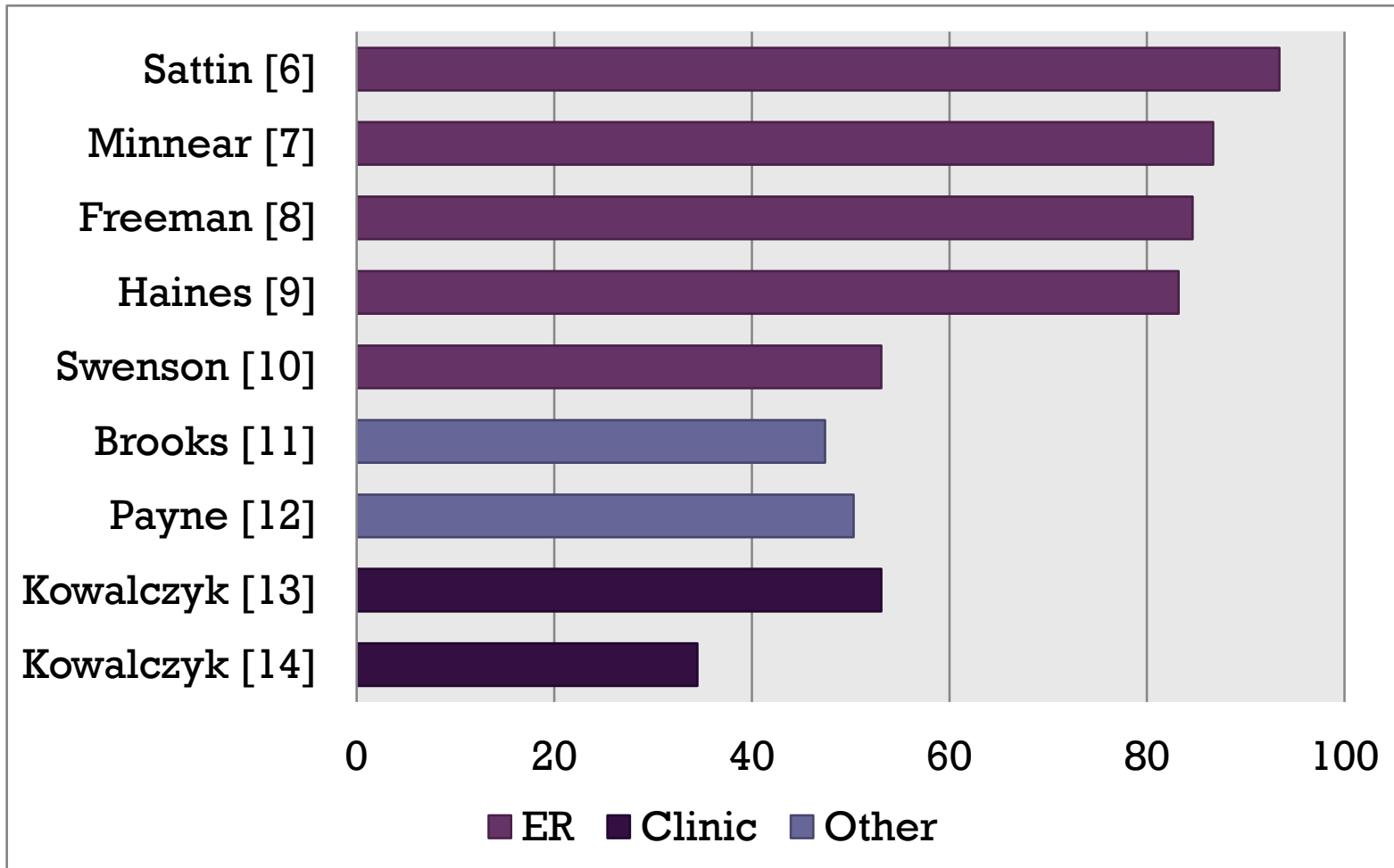


# + Results:

1. **Youth will do rapid testing**
2. **Youth prefer rapid testing, especially if offered**
3. Youth need to be tested
4. **Youth receive rapid test results**
5. **Programs are needed to target youth populations**



# + Youth Will Do Testing



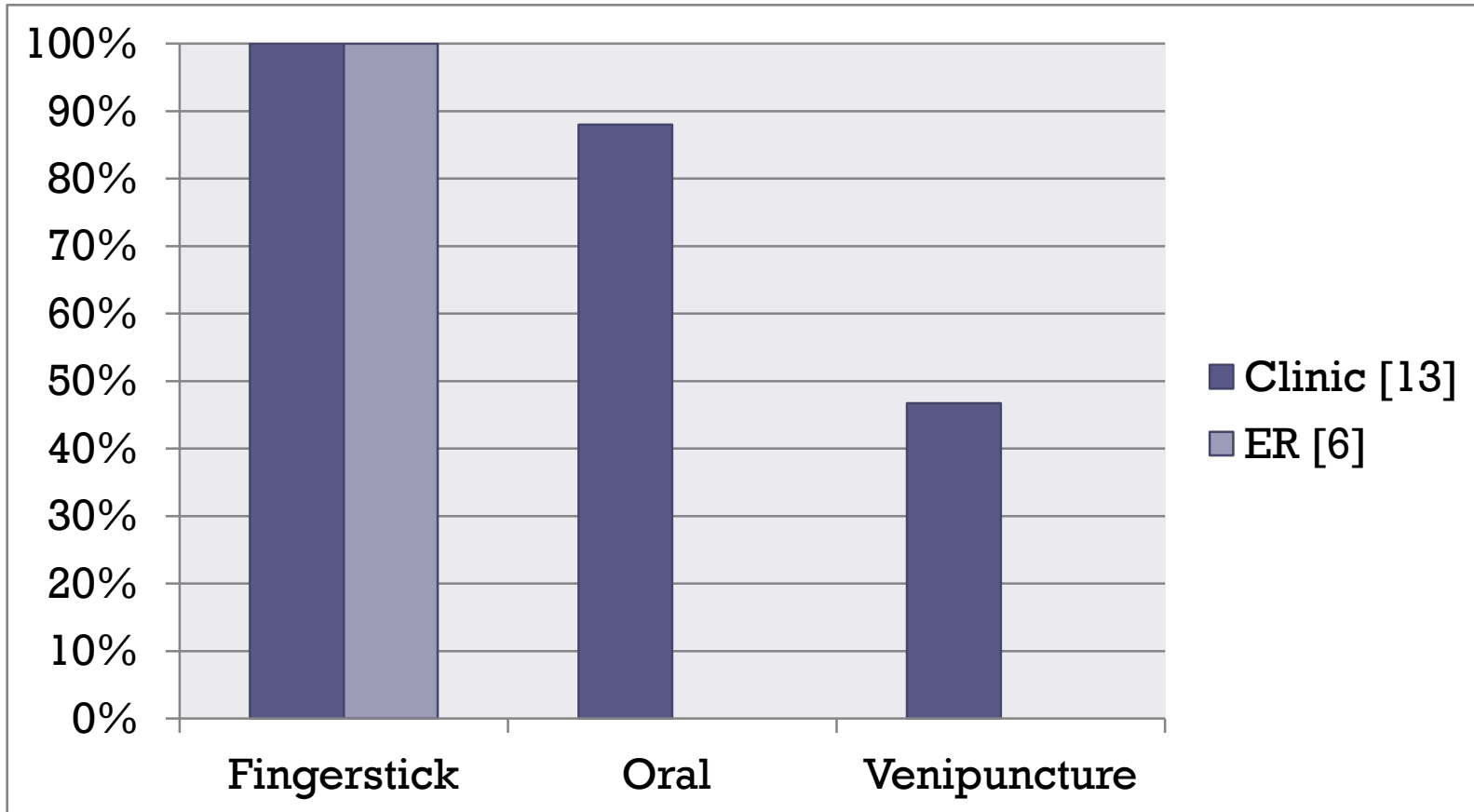
# + Youth Prefer Rapid Testing: Reasons

Author	Result
Cohall [18]	Wanting results soon as possible: 90%
Haines [9]	Adolescents more likely to get tested if rapid test available: 80%
Kowalczyk Mullin [13]	Avoid blood draws or needles and rapid return of results  Participant preference for same visit test results were associated with choice of rapid test (p<0.01)
Peralta [5]	Rapid testing methods significantly more desirable once youth knew of ten minute testing time (p<0.05)  Saliva testing methods were preferred more than the urine/finger-stick test (p<0.05)

# + Provider-Related Barriers

Author	Results
Haines [9]	More likely to accept if testing offered, than if have to request: 67%
Kowalczyk Mullin [13]	Increased rapid POC testing if perceived approval of health care provider for participant to obtain HIV testing
Mullin [17]	Increased testing intention if offered by provider
Peralta [5]	62.8% of youth cited never being offered an HIV test as a barrier

# + Receipt of Test Results



# + Programs Need to Target Younger Adolescents

- Testing increases with age

Freeman [8]



- Testing increases with age

Kowalczyk [13]



- Age > 15 associated with testing

Minnear [7]



- Age > 18 associated with testing

Sattin [6]



- No correlation with age

Swenson [10]



- No correlation with age

Mullins [17]



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# AIDS Bureau Funding & Training



## ■ **Application:**

- Proposal March 2011: Test kits & Training
- Acceptance August 2011: INSTI® Test Kits & Training

## ■ **Training:**

- All Covenant House RNs and MDs trained Sept. 19, 2011
- POC testing sites must meet all criteria for quality assurance as government and independent testing laboratories (documentation created and SOPs implemented)

## ■ **Implementation:** January/February 2012

## ■ **Data Collection/Evaluation:** May 2012 – May 2013

# + Project Stages

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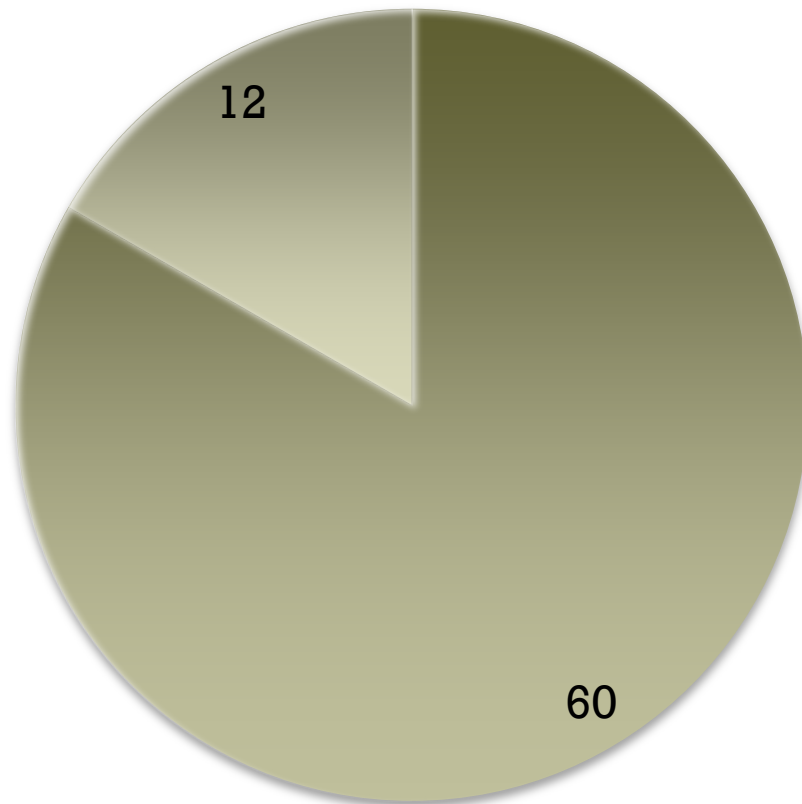
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# + Post-Implementation: The Numbers

## HIV Tests 2012-2013



- Traditional Tests
- Rapid POC Tests



# + Barriers to Implementation

## ■ Time:

- Pretest counseling requirements for testing rigid & specific
- 10-15 minutes is standard amount of time takes experienced clinician
- **Response: Standardized check-list**

## ■ Inexperience in performing test:

- Capillary blood draw can be challenging
- **Response: Dedicated nurses to do blood draws**

## ■ Inconvenience to patients:

- Other blood work typically required and collected by venipuncture
- **Response: Systematic review results**

# + Re-Implementation Strategies



- Re-implementation strategy:
  - Dedicated HIV testing appointments\*
  - More nurse-led assessments within a typical appointment
- Higher level advocacy:
  - Modified pre-test counseling requirements
  - Eliminate signed consent
  - Opt-out testing strategies

# + Project Stages

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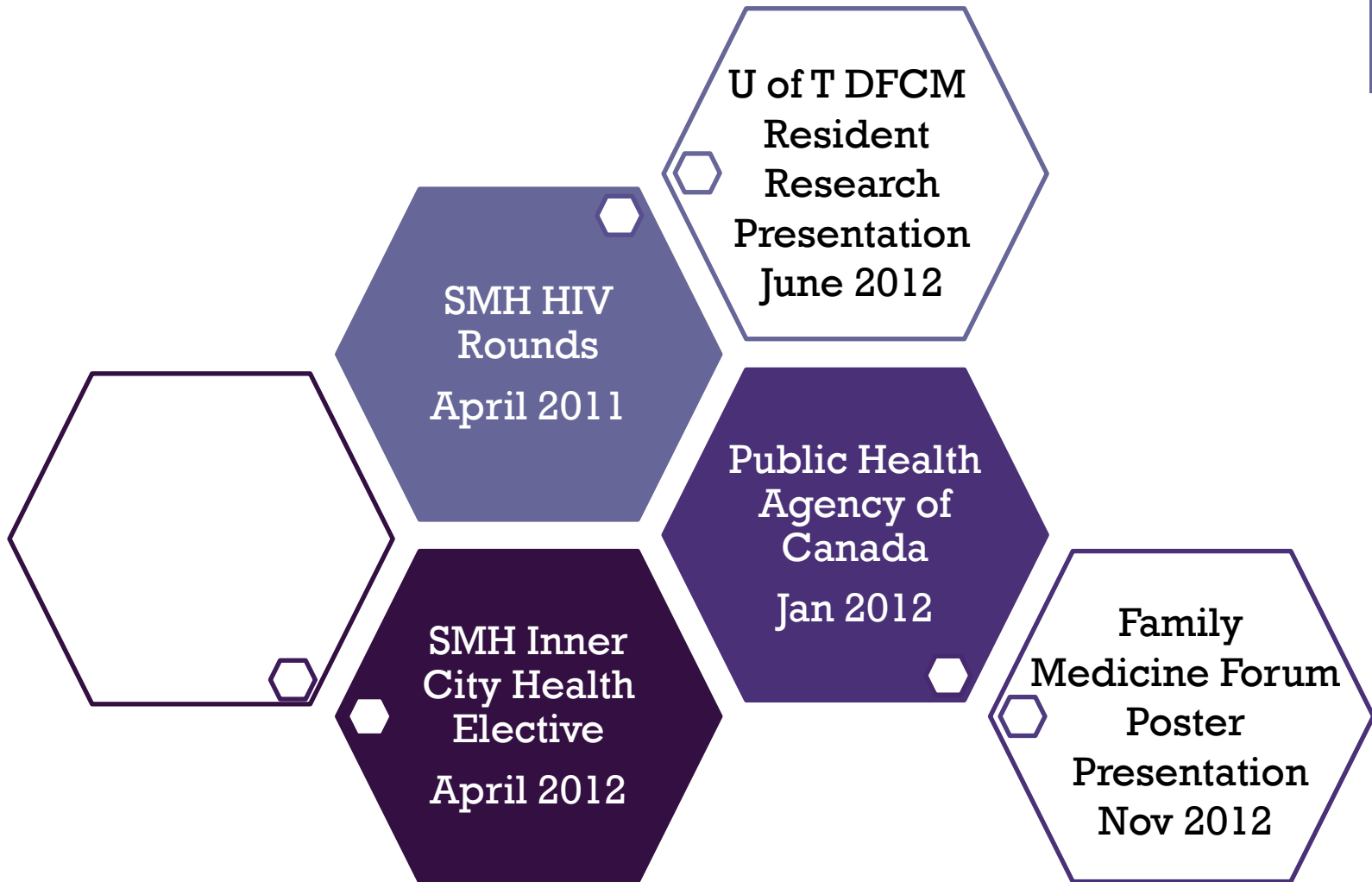
# + Project Evaluation

“Changes in Human Immunodeficiency Virus Testing Rates and the Receipt of Results after the Implementation of Rapid Testing.”

- REB Approval Sept 15, 2011, Renewal May 2013
- Retrospective and prospective elements in progress
- Addresses relationship between POC testing and:
  - Age
  - Gender
  - Country of origin
  - Associated GU diagnoses
  - Housing



# + Community Engagement





# + Project Stages

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